# Chapter NR 256

# FERROALLOY MANUFACTURING



**NR 256.01 Purpose.** The purpose of this chapter is to establish effluent limitations, standards of performance, and pretreatment standards for discharges of process wastes from the ferroalloy manufacturing category of point sources and subcategories thereof.

Note: The authority for promulgation of this chapter is set forth in Wis. Adm. Code chapter NR 205.

History: Cr. Register, August, 1976, No. 248, eff. 9-1-76.

**NR 256.02 Applicability.** The effluent limitations, standards of performance, pretreatment standards, and other provisions in this chapter are applicable to pollutants or pollutant properties in discharges of process waste resulting from manufacture in any of the following subcategories.

(1) Open electric furnaces with wet air pollution control devices. This subcategory covers the smelting of ferroalloys in open electric furnaces so constructed or configured that furnace off-gases are burned above the furnace charge level by air drawn into the system and having wet air pollution control devices for cleaning the combustion gases, such as scrubbers or electrostatic precipitators with aqueous sprays.

(2) Covered electric furnaces and other smelting operations with wet air pollution control devices. This subcategory covers the smelting of ferroalloys in electric furnaces known as covered, closed, sealed, semi-covered, or semi-closed furnaces so constructed or configured that the furnace off-gases are not burned prior to collection and cleaning and having wet air pollution control devices for cleaning the collected gases, such as a scrubber or wet baghouse. This subcategory also covers smelting in nonelectric furnaces having wet air pollution control devices, such as aluminothermic or silicothermic smelting or ferromanganese refining. This subcategory does not cover smelting in furnaces using dry dust collection techniques.

(3) Slag processing. This subcategory covers the processing of slag either to concentrate metallic values for return to the furnace or to convert the slag to shotted form for further use.

(4) Calcium carbide in furnaces with wet air pollution control devices as described in subsection (2) above.

(5) Calcium carbide in closed furnaces without wet air pollution control devices, excluding production in open furnaces subject to Wis. Adm. Code chapter NR 230.

(6) Electrolytic process:

(a) Manganese, or

(b) Manganese dioxide.

(7) Chromium, electrolytic process.

History: Cr. Register, August, 1976, No. 248, eff. 9-1-76.

**NR 256.03 Definitions.** The following definitions are applicable to terms used in this chapter. Definitions of other terms and meanings of abbreviations are set forth in Wis. Adm. Code chapter NR 205.

(1) "Chromium T" means total chromium.

(2) "Chromium VI" means hexavalent chromium.

(3) "Cyanide" means total cyanide.

(4) "Manganese" means total manganese.

(5) "Mwh" means the megawatt hours of electrical energy consumed in the smelting process.

History: Cr. Register, August, 1976, No. 248, eff. 9-1-76.

**NR 256.04 Compliance with effluent limitations and standards.** Discharge of pollutants from facilities subject to the provisions of this chapter shall not exceed, as appropriate:

(1) By July 1, 1977 effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available;

(2) By July 1, 1977 pretreatment standards for existing discharges to publicly owned treatment works;

(3) By July 1, 1983 effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable;

(4) Standards of performance for new sources; or

(5) Pretreatment standards for new sources discharging to publicly owned treatment works.

History: Cr. Register, August, 1976, No. 248, eff. 9-1-76.

**NR 256.05 Modification of effluent limitations.** (1) Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available may be modified in accordance with this section.

(2) An individual discharger or other interested person may submit evidence to the department that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the effluent limitations. On the basis of such evidence or other available information the department

will make a written determination that such factors are or are not fundamentally different for that facility compared to those specified in the applicable sections of the EPA development documents identified in subsection (3) below. If such fundamentally different factors are found to exist, the department shall establish for the discharge effluent limitations in the WPDES permit either more or less stringent than the limitations in this chapter, to the extent dictated by such fundamentally different factors. Such limitations must be approved by EPA which may approve, disapprove, or specify other limitations.

(3) The EPA development documents for effluent limitations guidelines and new source performance standards, identified by segment title, by EPA document number, and by publication date, applicable in accordance with subsection (2) above are:

Smelting and Slag Processing, EPA 440/1-74-008a, February 1974
Calcium Carbide, EPA 440/1-75-083, February 1975
Electrolytic Ferroalloys, EPA 440/1-75-038a, February 1975

(4) Copies of the development documents identified in subsection (3) above are available for inspection at the office of the department of natural resources, the secretary of state's office and the office of the revisor of statutes, and may be obtained for personal use from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20460.

History: Cr. Register, August, 1976, No. 248, eff. 9-1-76.

**NR 256.06 Application of effluent limitations and standards.** (1) The effluent limitations and standards set forth in this chapter shall be used in accordance with this section to establish the quantity or quality of pollutants or pollutant properties which may be discharged by a point source subject to the provisions of this chapter, except as;

(a) They may be modified in accordance with section NR 256.05,

(b) They may be superseded by more stringent limitations and standards necessary to achieve water quality standards or meet other legal requirements, or

(c) They may be supplemented or superseded by standards or prohibitions for toxic pollutants or by additional limitations for other pollutants required to achieve water quality.

(2) The production basis for application of the limitations and standards set forth in this chapter shall be the daily average of a maximum month in each subcategory subject to the provisions of this chapter.

History: Cr. Register, August, 1976, No. 248, eff. 9-1-76.

**NR 256.10 Effluent limitations, best practicable treatment.** The following effluent limitations for all or specific subcategories establish, except as provided in section NR 256.05, the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this chapter after application to process wastes of the best practicable control technology currently available.

(1) The pH of all discharges shall be within the range of 6.0 to 9.0

(2) The 30-day average limitations for suspended solids and other parameters for the subcategories identified in section NR 256.02 are set forth in table 1. The limitations are in lbs/Mwh for subcategories (1) and (2) and in lbs/1000 lbs. or kg/1000 kg. of production for other subcategories.

(3) For nonelectric furnaces in subcategory (2) the limitations of table 1 shall be converted to lbs/1000 lbs. or kg/1000 kg. of production by multiplying by 1.5.

(4) Daily maximum limitations are twice the average limitations set forth in table 1, except that for cyanide and phenols in subcategory (2) they are .009 and .013 respectively.

(5) There shall be no discharge to surface waters resulting from manufacture in subcategory (5).

History: Cr. Register, August, 1976, No. 248, eff. 9-1-76.

**NR 256.11 Effluent limitations, best available treatment.** The following effluent limitations for all or specific subcategories establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this chapter after application to process wastes of the best available technology economically achievable.

(1) The pH of all discharges shall be within the range of 6.0 to 9.0.

(2) The 30-day average limitations for suspended solids and other parameters for the subcategories identified in section NR 256.02 are set forth in table 2. The limitations are in lbs/Mwh for subcategories (1) and (2) and in lbs/1000 lbs. or kg/1000 kg. of production for other subcategories.

(3) For nonelectric furnaces in subcategory (2) the limitations of table 2 shall be converted to lbs/1000 lbs. or kg/1000 kg. of production by multiplying by 1.5.

(4) Daily maximum limitations are twice the average limitations set forth in table 2, except that for cyanide and phenols in subcategory (2) they are .001 and .0009 respectively.

(5) There shall be no discharge to surface waters resulting from manufacture in subcategory (5).

History: Cr. Register, August, 1976, No. 248, eff. 9-1-76.

**NR 256.12 Standards of performance.** For subcategories (1) through (3), the following effluent limitations establish the quantity or quality of pollutants or pollutant properties which may be dishcarged by a facility which is a new source subject to the provisions of this chapter.

(1) The pH of all discharges shall be within the range of 6.0 to 9.0.

(2) The 30-day average limitations for suspended solids and other parameters for the subcategories identified in section NR 265.02 are set forth in table 3. The limitations are in lbs/Mwh for subcategories (1) and (2) and in lbs/1000 lbs. or kg/1000 kg. for subcategory (3).

(3) For nonelectric furnaces in subcategory (2) the limitations of table 3 shall be converted to lbs/1000 lbs. or kg/1000 kg. of production by multiplying by 1.5.

(4) Daily maximum limitations are twice the average limitations set forth in table 3, except that for cyanide and phenols in subcategory (2) they are .001 and .0009 respectively.

History: Cr. Register, August, 1976, No. 248, eff. 9-1-76; am. (intro. par.) and (2), r. (5), Register, July, 1977, No. 259, eff. 8-1-77.

**NR 256.13 Pretreatment standards for new sources.** For subcategories (1) through (3), the pretreatment standards for discharges to publicly owned treatment works from new sources subject to the provisions of this chapter shall be as set forth in Wis. Adm. Code chapter NR 211, and in addition the limitations for incompatible pollutants shall be those set forth in section NR 256.12.

**Table 1**
**BPT Effluent Limitations**

| Parameter | Susp. Solids | Cyanide | Chromium T | Chromium VI | Manganese | Ammonia as N | Phenols |
|---|---|---|---|---|---|---|---|
| Subcategory | | | | | | | |
| (1) | .352 | | .007 | .0007 | .070 | | |
| (2) | .461 | .005 | .009 | .0009 | .092 | | .009 |
| (3) | 2.659 | | .053 | | .532 | | |
| (4) | .190 | .0028 | | | | | |
| (6) (a) | 3.389 | | | | 1.356 | 20.334 | |
| (6) (b) | .881 | | | | .352 | 5.287 | |
| (7) | 2.628 | | .053 | | 1.055 | 5.276 | |

**Table 2**
**BAT Effluent Limitations**

| Parameter | Susp. Solids | Cyanide | Chromium T | Chromium VI | Manganese | Ammonia as N | Phenols |
|---|---|---|---|---|---|---|---|
| Subcategory | | | | | | | |
| (1) | .026 | | .0009 | .0001 | .0086 | | |
| (2) | .035 | .0006 | .0012 | .0001 | .012 | | .0005 |
| (3) | .271 | | .0054 | | .054 | | |
| (4) | .11 | .0028 | | | | | |
| (6) (a) | 1.695 | | | | .339 | 3.389 | |
| (6) (b) | .441 | | | | .088 | .881 | |
| (7) | 1.324 | | .027 | | .265 | 2.649 | |

**Table 3**
**Standard of Performance Effluent Limitation**

| Parameter | Susp. Solids | Cyanide | Chromium T | Chromium VI | Manganese | Ammonia as N | Phenols |
|---|---|---|---|---|---|---|---|
| Subcategory | | | | | | | |
| (1) | .026 | | .0009 | .0001 | .0086 | | |
| (2) | .035 | .0006 | .0012 | .001 | .012 | | .0005 |
| (3) | .271 | | .0054 | | .054 | | |
| (4) | .020 | .0005 | | | | | |

Note: In mg/1 for cyanide and in lbs/1000 lbs or kg/1000 kg for the other parameters.

History: Cr. Register, August, 1976, No. 248, eff. 9-1-76; am. Register, July, 1977, No. 259, eff. 8-1-77.